

outwards, purple, blue, green, yellow, light red, a red mixed with purple.

Then immediately followed the Colours of the third Iris, which were in order outwards a green inclining to purple, a good green, and a red more bright than that of the former Iris.

The fourth and fifth Iris seemed of a bluish green within, and red without, but so faintly that it was difficult to discern the Colours.

## O B S. III.

Measuring the Diameters of these Rings upon the Chart as accurately as I could, I found them also in the same proportion to one another with the Rings made by Light transmitted through the two Object-Glasses. For the Diameters of the four first of the bright Rings measured between the brightest parts of their orbits, at the distance of six Feet from the Speculum were  $1\frac{11}{16}$ ,  $2\frac{3}{8}$ ,  $2\frac{11}{16}$ ,  $3\frac{3}{8}$  Inches, whose squares are in arithmetical progression of the numbers 1, 2, 3, 4. If the white circular Spot in the middle be reckoned amongst the Rings, and its central Light, where it seems to be most luminous, be put equipollent to an infinitely little Ring; the squares of the Diameters of the Rings will be in the progression 0, 1, 2, 3, 4, &c. I measured also the Diameters of the dark Circles between these luminous ones, and found their squares in the progression of the numbers  $\frac{1}{2}$ ,  $1\frac{1}{2}$ ,  $2\frac{1}{2}$ ,  $3\frac{1}{2}$ , &c. the Diameters of the first four at the distance of six Feet from the Speculum, being  $1\frac{3}{16}$ ,  $2\frac{1}{16}$ ,  $2\frac{2}{3}$ ,  $3\frac{3}{10}$  Inches. If the distance of the Chart from the Speculum was in-

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creased or diminished, the Diameters of the Circles were increased or diminished proportionally.

## O B S. IV.

By the analogy between these Rings and those described in the Observations of the first Part of this Book, I suspected that there were many more of them which spread into one another, and by interfering mixed their Colours, and diluted one another so that they could not be seen apart. I viewed them therefore through a Prism, as I did those in the 24th Observation of the first Part of this Book. And when the Prism was so placed as by refracting the Light of their mixed Colours to separate them, and distinguish the Rings from one another, as it did those in that Observation, I could then see them distincter than before, and easily number eight or nine of them, and sometimes twelve or thirteen. And had not their Light been so very faint, I question not but that I might have seen many more.

## O B S. V.

Placing a Prism at the Window to refract the introduced beam of Light, and cast the oblong Spectrum of Colours on the Speculum: I covered the Speculum with a black Paper which had in the middle of it a Hole to let any one of the Colours pass through to the Speculum, whilst the rest were intercepted by the Paper. And now I found Rings of that Colour only which fell upon the Speculum. If the Speculum was illuminated with red the Rings were totally red with dark intervals,

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